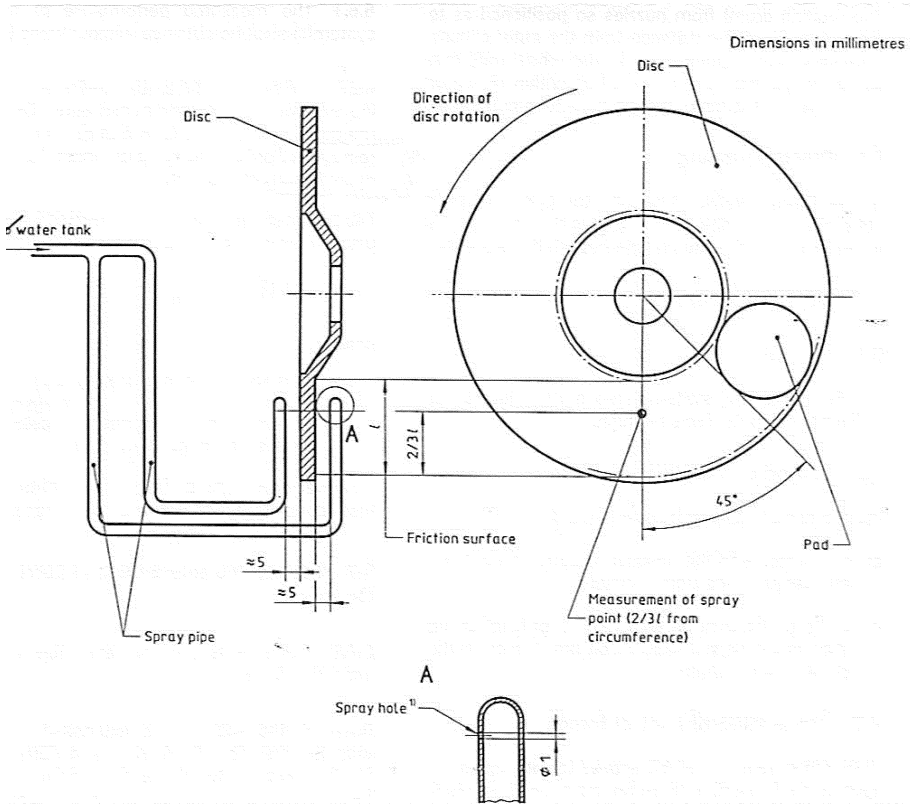
Figure 3. Wet brake test.



§571.123 Standard No. 123; Motorcycle controls and displays.

S1. *Scope*. This standard specifies requirements for the location, operation, identification, and illumination of motorcycle controls and displays, and requirements for motorcycle stands and footrests.

S2. *Purpose*. The purpose of this standard is to minimize accidents caused by operator error in responding to the motoring environment, by standardizing certain motorcycle controls and displays.

S3. *Application*. This standard applies to motorcycles equipped with handlebars, except for motorcycles that are designed, and sold exclusively for use by law enforcement agencies.

S4. *Definitions*. *Clockwise* and *counterclockwise* mean opposing directions of rotation around the following axes, as applicable.

(a) The operational axis of the ignition control, viewed from in front of the ignition lock opening;

(b) The axis of the right handlebar on which the twist-grip throttle is located, viewed from the end of that handlebar;

(c) The axis perpendicular to the center of the speedometer, viewed from the operator's normal eye position.

Scooter means a motorcycle that:

(1) Has a platform for the operator's feet or has integrated footrests, and

(2) Has a step-through architecture, meaning that the part of the vehicle

forward of the operator's seat and between the legs of an operator seated in the riding position, is lower in height than the operator's seat.

S5. *Requirements.*

S5.1. Each motorcycle shall be equipped with a supplemental engine stop control, located and operable as specified in Table 1.

S5.2 Each motorcycle to which this standard applies shall meet the following requirements:

S5.2.1 *Control location and operation.* If any item of equipment listed in Table 1, Column 1, is provided, the control for such item shall be located as specified in Column 2, and operable as specified in Column 3. Each control located on a right handlebar shall be operable by the operator's right hand throughout its full range without removal of the operator's right hand from the throttle. Each control located on a left handlebar shall be operable by the operator's left hand throughout its full range without removal of the operator's left hand from the handgrip. If a motorcycle with an automatic clutch other than a scooter is equipped with a supplemental rear brake control, the control shall be located on the left handlebar. If a scooter with an automatic clutch is equipped with a supplemental rear brake control, the control shall be on the right side and operable by the operator's right foot. A supplemental control shall provide brake actuation identical to that provided by the required control of Table 1, Item 11, of this Standard. If a motorcycle is equipped with self-proportioning or antilock braking devices utilizing a single control for front and rear brakes, the control shall be located and operable in the same manner as a rear brake control, as specified in Table 1, Item 11, and in this paragraph.

S5.2.2 *Display illumination and operation.* If an item of equipment listed in Table 2, Column 1, is provided, the display for such item shall be visible to a seated operator under daylight conditions, shall illuminate as specified in Column 2, and shall operate as specified in Column 3.

S5.2.3 *Control and display identification.* If an item of equipment in Table 3, Column 1, is provided, the item and its operational function shall be identified by:

(a) A symbol substantially in the form shown in Column 3; or

(b) Wording shown in both Column 2 and Column 4; or

(c) A symbol substantially in the form shown in Column 3 and wording shown in both Column 2 and Column 4.

(d) The abbreviations ''M.P.H.'', ''km/h'', ''r/min'', ''Hi'', ''Lo'', ''L'', ''R'', and ''Res'' appearing in Column 2 and Column 4 may be spelled in full. Symbols and words may be provided for equipment items where none are shown in Column 2, Column 3, and Column 4. Any identification provided shall be placed on or adjacent to the control or display position, and shall appear upright to the operator.

S5.2.4 *Stands.* A stand shall fold rearward and upward if it contacts the ground when the motorcycle is moving forward.

S5.2.5 *Footrests.* Footrests shall be provided for each designated seating position. Each footrests for a passenger other than an operator shall fold rearward and upward when not in use.

Table 1 - Motorcycle Control Location and Operation Requirements

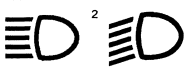
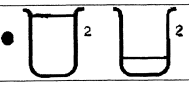
	Equipment Control - Column 1	Location -- Column 2	Operation -- Column 3
1	Manual clutch or integrated clutch and gear change	Left handlebar	Squeeze to disengage clutch.
2	Foot-operated gear change	Left foot control	An upward motion of the operator's toe shifts transmission toward lower numerical gear ratios (commonly referred to as "higher gears"), and a downward motion toward higher numerical gear ratios (commonly referred to as lower gears"). If three or more gears are provided, it shall not be possible to shift from the highest gear directly to the lowest, or vice versa.
3	Headlamp upper-lower beam control	Left handlebar	Up for upper beam, down for lower beam. If combined with the headlight on-off switch, means shall be provided to prevent inadvertent actuation of the "off" function.
4	Horn	Left handlebar	Push to activate.
5	Turn signal lamps	Handlebars.	

6	Ignition		"Off" - counterclockwise from other positions.
7	Manual fuel shutoff control		Rotate to operate. "On" and "Off" are separated by 90 degrees of rotation. "Off" and "Reserve" (if provided) are separated by 90 degrees of rotation. Sequence order: "On" - "Off" - "Reserve".
8	Twist-grip throttle	Right handlebar	Self-closing to idle in a clockwise direction after release of hand.
9	Supplemental engine stop	Right handlebar	
10	Front wheel brake	Right handlebar	Squeeze to engage.
11	Rear wheel brakes	Right foot control Left handlebar for a motor-driven cycle and for a scooter with an automatic clutch	Depress to engage. Squeeze to engage.
[1]See S5.2.1 for requirements for vehicles with a single control for front and rear brakes, and with a supplemental rear brake control.			

TABLE 2—MOTORCYCLE DISPLAY ILLUMINATION AND OPERATION REQUIREMENTS

Display—Column 1	Illumination—Column 2	Operation—Column 3
1. Speedometer	Yes	The display is illuminated whenever the headlamp is activated.
2. Neutral indication	Green display lamp	The display lamp illuminates when the gear selector is in neutral position.

Table 3
Motorcycle Control and Display Identification Requirements

No.	Column 1 *Equipment*	Column 2 *Control and Display Identification Word*	Column 3 *Control and Display Identification Symbol*	Column 4 *Identification at Appropriate Position of Control and Display*
1	Ignition	Ignition	_____	Off
2	Supplemental Engine Stop (Off, Run)	Engine Stop		Off, Run
3	Manual Choke or Mixture Enrichment	Choke or Enrichener		_____
4	Electric Starter	_____		Start [1]
5	Headlamp Upper-Lower Beam Control	Lights	 [2]	Hi, Lo
6	Horn	Horn		_____
7	Turn Signal	Turn	 [2] [3]	L, R
8	Speedometer	MPH OR MPH and km/h [5]	_____	MPH [4] MPH, km/h [5]
9	Neutral Indicator	Neutral	N	_____
10	Upper Beam Indicator	High Beam	 [2]	_____
11	Tachometer	R.P.M. or r/min.	_____	_____
12	Fuel Tank Shutoff Valve (Off, On, Res.)	Fuel	 [2] [2]	Off, On, Res.

[1] Required only if electric starter is separate from ignition switch.
[2] Framed areas may be filled.
[3] The pair of arrows is a single symbol. When the indicators for left and right turn operate independently, however, the two arrows will be considered separate symbols and may be spaced accordingly.
[4] MPH increase in a clockwise direction. Major graduations and numerals appear at 10 mph intervals, minor graduations at 5 mph intervals. (37 F.R. 17474 – August 29, 1972. Effective: 9/1/74)
[5] If the speedometer is graduated in miles per hour (MPH) and in kilometers per hour (km/h), the identifying words or abbreviation shall be "MPH" and "km/h" in any combination of upper or lower case letters.

[37 FR 7207, Apr. 12, 1972, as amended at 37 FR 17475, Aug. 29, 1972; 39 FR 32915, Sept. 12, 1974; 48 FR 42819, Sept. 20, 1983; 49 FR 35381, Sept. 7, 1984; 49 FR 35504, Sept. 10, 1984; 56 FR 61387, Dec. 3, 1991; 63 FR 28933, May 27, 1998; 63 FR 51001, Sept. 24, 1998; 70 FR 51295, Aug. 30, 2005]